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## TRANSMITTAL FORM

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Application Number

10/544,163

Filing Date

July 29, 2005

First Named Inventor

Hector F. DeLuca

Art Unit

Examiner Name

Attorney Docket Number

1256-01083

### ENCLOSURES (Check all that apply)

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### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Andrus, Sceales, Starke & Sawall, LLP		
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Printed name	Thomas M. Wozny		
Date	December 1, 2005	Reg. No.	28,922

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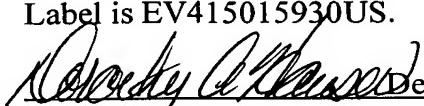
This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No. : 10/544,163  
Applicant : Hector F. DeLuca et al  
  
Filed : July 29, 2005  
Title : 2-Propylidene-19-Nor-Vitamin D Compounds  
  
TC/A.U. :  
Examiner :  
  
Docket No. : 1256-01083

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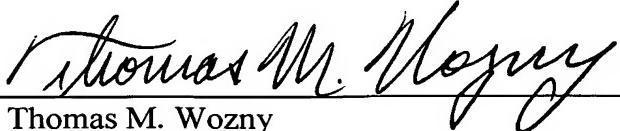
Enclosed is a PTO Form 1449 as well as copies of the references cited therein. Patent Nos. 6,392,071, 5,936,133, 5,843,928 and publication No. US 2002/0087015 A1 were cited in a PCT International Search Report dated February 3, 2004, copy enclosed, in a counterpart PCT patent application.

The references are being submitted in accordance with 37 CFR 1.97(b)(1).

It is respectfully submitted that all requirements have been fulfilled for consideration of this Information Disclosure Statement, and such action is earnestly solicited. The Examiner is invited to contact Applicant's undersigned attorney with any questions or comments, or otherwise to facilitate prosecution.

Respectfully submitted,

ANDRUS, SCEALES, STARKE & SAWALL, LLP

By   
Thomas M. Wozny  
Reg. No. 28,922

Andrus, Sceales, Starke & Sawall, LLP  
100 East Wisconsin Avenue, Suite 1100  
Milwaukee, WI 53202  
Telephone: (414) 271-7590  
Facsimile: (414) 271-5770

Form PTO-1449	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No. 1256-01083	Appln. No.: 10/544,163
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use several sheets if necessary)		Applicant Hector F. DeLuca et al	
		Filing Date July 29, 2005	Group Art Unit

U.S. PATENT DOCUMENTS					
*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	Pages, Columns, Lines , Where Relevant Passages or Relevant Figures Appear	
	US 2002/0087015 A1	04/28/2005	DeLuca et al		
	US 4,666,634	05/19/1987	Miyamoto et al		
	US 5,086,191	02/04/1992	DeLuca et al		
	US 5,237,110	08/17/1993	DeLuca et al		
	US 5,246,925	09/21/1993	DeLuca et al		
	US 5,428,029	06/27/1995	Doran et al		
	US 5,484,782	01/16/1996	DeLuca et al		
	US 5,536,713	06/16/1996	DeLuca et al		
	US 5,587,497	12/24/1996	DeLuca et al		
	US 5,817,648	10/06/1998	Kutner et al		
	US 5,843,927	12/01/1998	DeLuca et al		
	US 5,843,928	12/01/1998	DeLuca et al		
	US 5,877,168	03/02/1999	Miyamoto et al		
	US 5,936,133	08/10/1999	DeLuca et al		
	US 5,945,410	08/31/1999	DeLuca et al		
	US 6,392,071	05/21/2002	DeLuca et al		

FOREIGN PATENT DOCUMENTS					
	DOCUMENT NUMBER	DATE	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
	EP 0078704	04-29-1987	Hesse		
	EP 0184206	12-04-1985	Miyamoto et al		
	EP 0387077	09-03-1990	DeLuca et al		
	EP 0474517	11-03-1992	DeLuca		

Form PTO-1449	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No. <b>1256-01083</b>	Appln. No.: <b>10/544,163</b>
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use several sheets if necessary)		Applicant <b>Hector F. DeLuca et al</b>	
		Filing Date <b>July 29, 2005</b>	Group Art Unit

	EP 0480572	04-15-1992	DeLuca	
	EP 0516410	12-02-1992	DeLuca et al	
	WO 90/09991	09-07-1990	Calverley et al	
	WO 96/01811	01-25-1996	Posner	
	WO 98/41500	09-24-1998	DeLuca	

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)	
	Baggiolini et al, "Stereochemical Total Synthesis of $1\alpha,25$ -Dihydroxycholecalciferol and $1\beta,25$ -Dihydroxyerocalciferol", Journal of Organic Chemistry, 51, pp. 3098-3108, 1986.
	Bouillon et al, "Biological Activity of Dihydroxylated 19-Nor-(Pre)Vitamin D <sub>3</sub> ", Bioactivity of 19-Nor-Pre D, Vol. 8, No. 8, pp. 1009-1015, 1993.
	Chemical Abstracts, "Chemistry of Synthetic High Polymers", Vol. 110, No. 10, Abstract 110: 82505v, March 6, 1989.
	Chemical Abstracts, XP-002066055, Vol. 121, No. 21, November 21, 1994.
	Fujishima et al, "Synthesis and Biological Activity of 2-Methyl-20-EPI Analogues of $1\alpha,25$ -Dihydroxyvitamin D <sub>3</sub> ", Bioorganic & Medicinal Chemistry Letters, 8, pp. 2145-2148, 1998.
	Kiegiel et al, "Chemical Conversion of Vitamin D <sub>3</sub> to its 1,25-Dihydroxy Metabolite", Tetrahedron Letters, Vol. 31, No. 43, pp. 6057-60660, 1991.
	Konno et al, "A Novel and Practical Route to A-Ring Enyne Synthon for $1\alpha,25$ -Dihydroxyvitamin D <sub>3</sub> Analogs: Synthesis of A-ring Diastereomers of $1\alpha,25$ -Dihydroxy-Vitamin D <sub>3</sub> and 2-Methyl-1,25-Dihydroxyvitamin D <sub>3</sub> ", Bioorganic & Medicinal Chemistry Letters, 8, pp. 151-156, 1998.
	Okano et al, "Regulatory Activities of $2\beta$ -(3-Hydroxypropoxy)- $1\alpha,25$ -Dihydroxyvitamin D <sub>3</sub> . A Novel Synthetic Vitamin D <sub>3</sub> Derivative on Calcium Metabolism", Biochemical and Biophysical Research Communications, Vol. 163, No. 3, pp. 1444-1449, September 29, 1989.
	Perlman et al, " $1\alpha,25$ -Dihydroxy-19-Nor-Vitamin D <sub>3</sub> . A Novel Vitamin D-Related Compound with Potential Therapeutic Activity", Tetrahedron Letters, Vol. 31, No. 13, pp. 1823-1824, February 1990.

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	Posner et al, "2-Fluoroalkyl A-Ring Analogs of 1,25-Dihydroxyvitamin D <sub>3</sub> -Stereocontrolled Total Synthesis via Intramolecular and Intermolecular Diels-Alder Cycloadditions. Preliminary Biological Testing", Journal of Organic Chemistry, 60, pp. 4617-4628, 1995.
	Posner et al, "Stereocontrolled Synthesis of a Trihydroxylated A Ring as an Immediate Precursor to 1 $\alpha$ ,2 $\alpha$ ,25-Trihydroxyvitamin D <sub>3</sub> ", Journal of Organic Chemistry, 56, pp. 4339-4341, April 15, 1995.
	Sarandeses et al, "Synthesis of 1 $\alpha$ ,25-Dihydroxy-19-Norpervitamin D <sub>3</sub> ", Tetrahedron Letters, pp. 5445-5448, April 1992.
	Sicinski et al, "New 1 $\alpha$ ,25-Dihydroxy-19-Norvitamin D <sub>3</sub> Compounds of High Biological Activity: Synthesis and Biological Evaluation of 2-Hydroxymethyl, 2-Methyl, and 2-Methylene Analogues," Journal of Medical Chemistry, 41, pp. 4662-4674, 1998.
	Slatopolsky et al, "A New Analog of Calcitriol, 19-Nor-1,25-(OH) <sub>2</sub> D <sub>2</sub> Suppresses Parathyroid Hormone Secretion in Uremic Rats in the Absence of Hypercalcemia", American Journal of Kidney Disorders, 26(5), 832-60, 1995.
	Suhara et al, "Synthesis and Biological Evaluation of Novel 2 $\alpha$ -Substituted 1 $\alpha$ ,25-Dihydroxyvitamin D <sub>3</sub> Analogues," Biorganic & Medicinal Chemistry Letters, 10, pp. 1129-1132, March 16, 2000.

EXAMINER	DATE CONSIDERED
<p>*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance <u>and</u> not considered. Include copy of this form with next communication to client.</p>	